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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

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Application No.: US National Stage of PCT/JP01/02967

Filed: November 30, 2001

Docket No.: 111228

For: CONTROL OF DISTRIBUTED PRINTING WITH MULTIPLE PRINTERS

PRELIMINARY AMENDMENT

Director of the U.S. Patent and Trademark Office
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please replace claims 8, 9, 20, 21, 30-32, 34, 37, 41, 47-49, 51, 54, 58, 59, 62 and 65
as follows:

8. (Amended) A distributed printing control apparatus in accordance with claim
5, wherein said data allocation module comprises:

a unit setting module that changes over the specified set of pages between a unit of
each copy and a unit of each set of identical pages, in response to an externally input
predetermined third command.

9. (Amended) A distributed printing control apparatus in accordance with claim
5, said distributed printing control apparatus further comprising:

a distribution information setting module that causes an input window to be displayed on a display device and sets various pieces of information regarding distribution of the print data based on input data from an input device,

wherein said data allocation module specifies the pages allocated to the multiple printers, based on the various pieces of information set by said distribution information setting module, and

said distribution information setting module comprises a display control module that generates an illustrated image, which includes an array of printing media and corresponds to the information specified by said data allocation module based on the various pieces of information and causes the illustrated image to be displayed on said display device.

20. (Amended) A computer readable recording medium in accordance with claim 17, wherein said function (a) comprises the function of:

changing over the specified set of pages between a unit of each copy and a unit of each set of identical pages, in response to an externally input predetermined third command.

21. (Amended) A computer readable recording medium in accordance with claim 17, wherein said computer program further causes the computer to attain the function of:

(d) causing an input window to be displayed on a display device and setting various pieces of information regarding distribution of the print data based on input data from an input device,

said function (a) specifies the pages allocated to the multiple printers, based on the various pieces of information set by said function (d), and

said function (d) comprises:

the function of generating an illustrated image, which includes an arrangement of printing media and corresponds to the information specified by said function (a), based on the

various pieces of information and causing the illustrated image to be displayed on said display device.

30. (Amended) A distributed printing control apparatus in accordance with claim 25, wherein said condition setting module displays an option display box showing options possibly input in the data input box, together with the data input box, and sets one option selected among the options and specified from said input device as the predetermined condition, and

said data input restriction module prohibits at least part of the options included in the option display box from being specified from said input device, so as to restrict the input data in the data input box.

31. (Amended) A distributed printing control apparatus in accordance with claim 25, said distributed printing control apparatus further comprising:

a group mapping module that maps a plurality of printers to each group, wherein said printer specification module specifies the multiple printers by a unit of group mapped by said group mapping module.

32. (Amended) A distributed printing control apparatus in accordance with claim 25, wherein said printer specification module comprises a name display control module that displays names assigned to the specified multiple printers on said display device.

34. (Amended) A distributed printing control apparatus in accordance with claim 25, wherein said printer specification module comprises:

a priority order specification module that specifies an order of priority allocated to the specified multiple printers, and

said distributive output module carries out the distributive output by taking into account the order of priority specified by said priority order specification module.

37. (Amended) A distributed printing control apparatus in accordance with claim 25, wherein said printer performance information collection module receives information regarding performances of the multiple printers from printer drivers provided for respective types of the multiple printers and collects the performance information with regard to the predetermined condition from the received information.

41. (Amended) A distributed printing control method that specifies multiple printers as destinations of distribution and outputs print data, which is an object to be printed, to the specified multiple printers in a distributive manner, thus controlling distributed printing,

said distributed printing control method comprising steps corresponding to the modules included in a distributed printing control apparatus in accordance with claim 28.

47. (Amended) A computer readable recording medium in accordance with claim 42, wherein said function (c) displays an option display box showing options possibly input in the data input box, together with the data input box, and sets one option selected among the options and specified from said input device as the predetermined condition, and

said function (e) prohibits at least part of the options included in the option display box from being specified from said input device, so as to restrict the input data in the data input box.

48. (Amended) A computer readable recording medium in accordance with claim 42, wherein said computer program further causes the computer to attain the function of:

(f) mapping a plurality of printers to each group,

wherein said function (a) specifies the multiple printers by a unit of group mapped by said function (f).

49. (Amended) A computer readable recording medium in accordance with claim 42, wherein said function (a) comprises the function of:

(a-1) displaying names assigned to the specified multiple printers on said display device.

51. (Amended) A computer readable recording medium in accordance with claim 42, wherein said function (a) comprises the function of:

(a-3) specifying an order of priority allocated to the specified multiple printers, and said function (b) carries out the distributive output by taking into account the order of priority specified by said function (a-3).

54. (Amended) A computer readable recording medium in accordance with claim 42, wherein said function (d) receives information regarding performances of the multiple printers from printer drivers provided for respective types of the multiple printers and collects the performance information with regard to the predetermined condition from the received information.

58. (Amended) A distributed printing control apparatus in accordance with claim 56, wherein said information input module receives the information from the printer drivers provided for the respective printers.

59. (Amended) A distributed printing control apparatus in accordance with claim 56, wherein the multiple printers are connected via a computer network.

62. (Amended) A distributed printing control method in accordance with claim 60, wherein said step (b) receives the information from the printer drivers provided for the respective printers.

65. (Amended) A computer readable recording medium in accordance with claim 63, wherein said function (b) receives the information from the printer drivers provided for the respective printers.

REMARKS

Claims 1-66 are pending. By this Preliminary Amendment, claims 8, 9, 20, 21, 30-32, 34, 37, 41, 47-49, 51, 54, 58, 59, 62 and 65 are amended to eliminate multiple dependencies.

Prompt and favorable consideration on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Respectfully submitted,



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Attached: APPENDIX
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APPENDIX

Changes to Claims:

The following are marked-up versions of the amended claims:

8. (Amended) A distributed printing control apparatus in accordance with claim
5~~any one of claims 5 to 7~~, wherein said data allocation module comprises:

a unit setting module that changes over the specified set of pages between a unit of each copy and a unit of each set of identical pages, in response to an externally input predetermined third command.

9. (Amended) A distributed printing control apparatus in accordance with claim
5~~any one of claims 5 to 8~~, said distributed printing control apparatus further comprising:

a distribution information setting module that causes an input window to be displayed on a display device and sets various pieces of information regarding distribution of the print data based on input data from an input device,

wherein said data allocation module specifies the pages allocated to the multiple printers, based on the various pieces of information set by said distribution information setting module, and

said distribution information setting module comprises a display control module that generates an illustrated image, which includes an array of printing media and corresponds to the information specified by said data allocation module based on the various pieces of information and causes the illustrated image to be displayed on said display device.

20. (Amended) A computer readable recording medium in accordance with claim
17~~any one of claims 17 to 19~~, wherein said function (a) comprises the function of:

changing over the specified set of pages between a unit of each copy and a unit of each set of identical pages, in response to an externally input predetermined third command.

21. (Amended) A computer readable recording medium in accordance with claim 17~~any one of claims 17 to 20~~, wherein said computer program further causes the computer to attain the function of:

(d) causing an input window to be displayed on a display device and setting various pieces of information regarding distribution of the print data based on input data from an input device,

said function (a) specifies the pages allocated to the multiple printers, based on the various pieces of information set by said function (d), and

said function (d) comprises:

the function of generating an illustrated image, which includes an arrangement of printing media and corresponds to the information specified by said function (a), based on the various pieces of information and causing the illustrated image to be displayed on said display device.

30. (Amended) A distributed printing control apparatus in accordance with claim 25~~any one of claims 25 to 29~~, wherein said condition setting module displays an option display box showing options possibly input in the data input box, together with the data input box, and sets one option selected among the options and specified from said input device as the predetermined condition, and

said data input restriction module prohibits at least part of the options included in the option display box from being specified from said input device, so as to restrict the input data in the data input box.

31. (Amended) A distributed printing control apparatus in accordance with claim 25~~any one of claims 25 to 30~~, said distributed printing control apparatus further comprising:

a group mapping module that maps a plurality of printers to each group,

wherein said printer specification module specifies the multiple printers by a unit of group mapped by said group mapping module.

32. (Amended) A distributed printing control apparatus in accordance with claim 25~~any one of claims 25 to 31~~, wherein said printer specification module comprises a name display control module that displays names assigned to the specified multiple printers on said display device.

34. (Amended) A distributed printing control apparatus in accordance with claim 25~~any of claims 25 to 33~~, wherein said printer specification module comprises:

a priority order specification module that specifies an order of priority allocated to the specified multiple printers, and

said distributive output module carries out the distributive output by taking into account the order of priority specified by said priority order specification module.

37. (Amended) A distributed printing control apparatus in accordance with claim 25~~any one of claims 25 to 36~~, wherein said printer performance information collection module receives information regarding performances of the multiple printers from printer drivers provided for respective types of the multiple printers and collects the performance information with regard to the predetermined condition from the received information.

41. (Amended) A distributed printing control method that specifies multiple printers as destinations of distribution and outputs print data, which is an object to be printed, to the specified multiple printers in a distributive manner, thus controlling distributed printing,

said distributed printing control method comprising steps corresponding to the modules included in a distributed printing control apparatus in accordance with claim 28~~any one of claims 28 to 37~~.

47. (Amended) A computer readable recording medium in accordance with claim 42~~any one of claims 42 to 46~~, wherein said function (c) displays an option display box showing options possibly input in the data input box, together with the data input box, and sets one option selected among the options and specified from said input device as the predetermined condition, and

said function (c) prohibits at least part of the options included in the option display box from being specified from said input device, so as to restrict the input data in the data input box.

48. (Amended) A computer readable recording medium in accordance with claim 42~~any one of claims 42 to 47~~, wherein said computer program further causes the computer to attain the function of:

(f) mapping a plurality of printers to each group,

wherein said function (a) specifies the multiple printers by a unit of group mapped by said function (f).

49. (Amended) A computer readable recording medium in accordance with claim 42~~any one of claims 42 to 48~~, wherein said function (a) comprises the function of:

(a-1) displaying names assigned to the specified multiple printers on said display device.

51. (Amended) A computer readable recording medium in accordance with claim 42~~any one of claims 42 to 50~~, wherein said function (a) comprises the function of:

(a-3) specifying an order of priority allocated to the specified multiple printers, and said function (b) carries out the distributive output by taking into account the order of priority specified by said function (a-3).

54. (Amended) A computer readable recording medium in accordance with claim 42~~any one of claims 42 to 53~~, wherein said function (d) receives information regarding

performances of the multiple printers from printer drivers provided for respective types of the multiple printers and collects the performance information with regard to the predetermined condition from the received information.

58. (Amended) A distributed printing control apparatus in accordance with claim 56~~either one of claims 56 and 57~~, wherein said information input module receives the information from the printer drivers provided for the respective printers.

59. (Amended) A distributed printing control apparatus in accordance with claim 56~~any one of claims 56 to 58~~, wherein the multiple printers are connected via a computer network.

62. (Amended) A distributed printing control method in accordance with claim 60~~either one of claims 60 and 61~~, wherein said step (b) receives the information from the printer drivers provided for the respective printers.

65. (Amended) A computer readable recording medium in accordance with claim 63~~either one of claims 63 and 64~~, wherein said function (b) receives the information from the printer drivers provided for the respective printers.